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Youth ! ... How did you find your job ?

Fathi Fakhfakh, [1] Annick Vignes [2] and Jihan Ghrairi[1]

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Abstract

French youth suffer from a high level of unemployment. Despite a large number of public policies, youth employability remains at a critical level. This article emphasizes the role of networks in getting a job, while distinguishing between school networks and social/professional networks, and this a novelty of this study. We postulate that workers use networks differently depending mainly on their individual and their socio-spatial characteristics. The empirical analysis shows that more than 30% of young people find a job thanks to their social or school network. School networks help better-educated people, whereas social networks are more fruitful for the less well-educated. Being a woman or having non-French parents reduce the probability of finding a job through social or school networks. Finally, people living in sensitive urban areas are more affected by unemployment, and they are more likely to find a job through school networks, public agencies or competitive exams. Thus, networks help in finding a job, but to different extents depending on education, origin, gender or place of residence.

Keywords: Social and professional networks, school networks, job access channels, youth labor market, socio-spatial indicators

J.E.L. codes: J21, J24, J64

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Introduction

The high level of unemployment among young people is a major issue in OECD countries, and has been for a long time (Freeman and Wise, 1982). The situation of young people on the French labor market is particularly worrying, as the youth unemployment rate was almost 24% in 2013[1]: despite a large number of public policies focused on financial incentives to encourage firms to hire young people, youth employability remains at a critical level. Recent articles seek to explain the high rate of youth unemployment in terms of the evolution of employment protection legislation (Noelke, 2015) or traditional explanations based on biased technical changes and the international trade hypothesis (Wasmer, 2002). Although the recession does not help young people to find jobs (Bell and Blanchflower, 2011), their high unemployment rate clearly also depends on something other than classical demand and supply constraints or labour market regulations.

Another path of research must be explored, in terms of information asymmetry and moral hazard. When looking for a job, young people are characterised by having little or no work experience and some authors, like Ghiglino and Goyal (2010) or Granovetter (1995), highlight the high level risk aversion in firms when hiring young workers for their first jobs. Without any information on the intrinsic competence of the candidate and so facing a situation of moral hazard, the recruiter may be tempted to trust the opinion of acquaintances he shares with the job seeker. Social networks then play the role of additional informational device in the labor market, as underlined by Rees (1966), and can be an efficient way of finding a job (see Pellizzari (2010) and Zenou (2015)). It is nowadays commonly accepted that, although various job-finding channels (such as job ads, public or private employment agencies) can be used, a conversation with a friend or family member over a cup of coffee is also an efficient method to find a job (Corcoran et al., 1980, Mortensen, 1987, Ioannides and Datcher Loury, 2004). Little is known, however about the way people search and what kind of search process leads to being recruited.

Starting with the empirical analysis of a French Insee survey, namely the "*Enquête Emploi, 2010*", this article seeks to identify the job-finding channels through which young workers found the job they were in when they answered the survey. Particular attention is paid to the role of social networks in job-finding. The level of youth unemployment differs greatly according to the level of diploma. Nearly 40% of young people (15-29 years) without any diploma are unemployed, compared with 18% of the category 30-49 years. 10% of the population of young people with a diploma representing more than 2 years of higher education are unemployed, compared with 5% of people older than 30[2]. An important objective of this study is to understand whether the different job-finding strategies depend on the level of diploma, the socio-economic characteristics or the place of residence.

Social networks play an important role when it comes to finding a job. A less explored question is whether this role has the same importance for very different types of job seekers. Margolis and Simonnet (2004),

[1] OECD data

[2] source: Observatoire des Inégalités, January, 2015

using French data, observe that young people with a technical or vocational education are more likely to find a job through social networks. Their explanation is in line with the findings of Rebick (2000), who shows that when there are persistent interactions between universities and the job market (such as internship and apprenticeship), young people find a job more easily than when looking for a job once their studies are over. Our analysis of social networks is more detailed than that of Margolis and Simonnet (2004): drawing on different information in our database, we are able to distinguish between different networks.

Looking at the socio-ethnic characteristics of network users, Elliott (2001) underlines the influence of ethnic networks on the dynamics of the informal job market. Using the same data, Bentolila et al. (2010) show that those who find a job through their contacts seem to be slightly younger, more likely to be male, less likely to be born in the U.S and white, more likely to be black or Asian, less educated, more experienced and more likely to work in small businesses. Because there is no information allowing to differentiate between people of different ethnic origins in French datasets, we focus on the parents' origins, distinguishing between French and non-French people, and between French and non-French parents.

The essential role of parents in their children's job-finding is emphasized by Kramarz and Skans (2014). Using original matched employer-employee data from Sweden, these authors compare the influence of parental networks (strong ties) and ties involving relatives (weak ties). They show that obtaining one's first stable job in the firm where one's parents work is very frequent and that this effect is larger if the graduate's position is fragile, *i.e*, low education, low grades. Conversely, weak ties (neighbors, in particular) are more influential for people with a higher level of education.

Looking further into the influence of neighbors, a pertinent question is then to evaluate the influence of the neighborhood on job-finding strategies. As far as we know, this question has been little examined by the literature. Bayer et al. (2008) provide evidence that the increased availability of neighborhood referrals affects a wide range of labor market outcomes including employment. It can be argued that because social networks strongly influence the recruitment process, they reinforce inequality and discrimination from the beginning of the hiring process (see Chauvac, 2011, Bessy and Marchal, 2009). However, although the literature on formal versus informal job search channels is rich, there is still a lack of empirical evidence on the role played by different kinds of networks (social, professional and school networks).

Based on the hypothesis that networks influence the probability of finding a job, but that there also exist numerous other job-finding channels, the aim of this paper is to better understand the determinants of using one channel or another. We then postulate that workers use networks in a different manner depending mainly on their individual characteristics (age, gender, nationality, education), as well as the characteristics of their parents (nationality and occupation) and the characteristics of their residence area.

From our analysis of the dataset, we distinguish six different job-finding possibilities, of which two are related to networks. The first originality of this study consists in going beyond (Margolis and Simonnet, 2004)[3]

[3]Margolis considered that the only social networks are school networks, and overlooked all the others.

or (Kramarz and Skans, 2014)'s results by distinguishing between school networks and social networks. The reason we consider two different types of social networks is that the effect of some variables, such as the education level, might be diluted if we group together the professional contacts and the school contacts.

The French population lives in urban areas (60%) or rural areas, and some of these areas are classified as sensitive. Instead of measuring a local neighborhood effect like Bayer et al. (2008), we look at spatial social effects, i.e., rurality and sensitivity as well as the interactions between them: this is the second originality of this paper.

The third originality is to control for different types of origins by considering both the nationality of the young people and that of their parents (father and mother). This allows us to obtain some indications about the influence of people's socio-origins, despite the absence of ethnic information in the French dataset.

Finally, as both employed and unemployed workers are present in the initial sample, we adapt the (Van de Ven, 1981) binomial model with selection to the case of multinomial choices with selection, since we analyze the different job-finding channels, which implies that we only consider employed people.

The paper proceeds as follows. Section 1 presents the data and some stylized facts. The econometric model is introduced in section 2. Section 3 presents our results. The last section concludes.

1 Data and Stylized Facts

The data set is the French labor survey, namely the "Enquête Emploi" (Insee, 2010). Since 2003, the quarterly labor force survey is conducted on a sample of the French households and is carried out continuously one week per quarter. The surveyed sample is renewed every year. We use the wave of 2010 to analyse the influence of different socio-demographic variables on the likelihood of finding a job through a given job search channel.

Our sample counted initially 94 421 young people (15-30 year-old) in 2010. We discard the inactive individuals (students and the NEET: Not in Education, Employment or Training) as they are not considered as looking for a job. Hence, we are left with 49,833 young active individual in 2010 (41,532 are employed (83.34%) and 8,301 are unemployed (16.66%). In this study, we consider only active individuals, *i.e.* 49,833 persons.

In order to identify the job search channel through which the young workers found their current jobs, the survey questionnaire asks "Through which channel did you find your current job ?". This question provides several answer options from which the respondent must choose only one alternative. The questionnaire proposes 10 different alternatives as possible answers. We rebuilt theses options into one variable taking one of the 6 following alternatives.

We call "Direct Application" the case where the respondent found a job either through direct application or through job adverts. "Social network" designates the case where a job is found through personal or pro-

fessional contacts: family relationships or personal/professional acquaintances + a contact from the firm + previous/spouse's employer. "School network" concerns the situation where the job is found thanks to the worker's former school or training institution. Then, we define "Public agency" and "Private agencies" as respectively the case where people found a job through the public employment office or private agencies. The last possibility concerns people finding a job through either job examinations or other unspecified channels: and this is what we call "Exams/ self-employed".

Looking at the factors influencing the probability of finding a job through a particular search channel, we particularly focus on the use of informal strategies (interactions through internal referrals). In addition to the classical formal channels (direct job applications, responding to job ads, public or private intermediates and job examinations), we distinguish informal channels, defined as the set of personal/professional contacts (social network) and the school network.

We notice that the category "others" gathers an important amount of answers (nearly 19% of highly educated and 10% of the sample). We already include the category "job exams" in "others". Even if we have no detailed information, we believe that it may cover self-employed, forums, career fairs or internet networks (linkedin, monster, other). Following Margolis 2004, we keep it as the reference alternative instead of leaving it out from the analysis as in (see Flap and de Graaf, 1988).

Diplomas are aggregated into 4 levels as follows (see Aeberhardt et al., 2011):

- High: High-educated, Bachelor Degree and Business or Engineering Master

- Middle: Mid-educated, Higher National Diploma and the Diploma of Higher Education (BTS/DUT and the DEUG/DEUST).

- Bac: BAC, French general secondary education certificate.

- Less: Less-educated, without diplomas or maximum vocational aptitude and vocational education certificate (CAP/BEP).

The examination of the diplomas' distribution shows some important disparities as almost 37% of young workers are less or not-educated (less) while only 19.59% are at least bachelors. Table 1 shows also that a great proportion of young workers find their jobs more often through direct applications (49.74%) or networks (32.22%) rather than the formal job search channels such as the institutional recruitment intermediates (public and private, together 8.52%).

To better understand the determinants of job access channels we focus on the following set of explanatory variables which are the individual characteristics (age, gender, education, marital status, nationality) and the place of residence.

- Concerning the nationality, we consider different types depending on the parents' origin. We construct a new variable describing the worker's origin which takes 4 different values described as follows: (1) if

both parents are French, (2) if one parent is French but the other is not, (3) if none of them is French but their son/daughter is and (4) if none of them is French and their son/daughter is not too.

- Concerning the place of residence, we take into account two dimensions, *i.e.*, the neighborhood and the regional dimension[4]. The neighborhood can be rural or not rural as it also can be classified as a sensitive urban area (SUA) or an urban but not sensitive area. Regions are characterized by their degree of rurality (low, average and high) and by the proportion of sensitive urban areas (high or average). We should mention here, that because of its particularity (the biggest region, the highest level of SUA), the region Ile de France (IdF) is isolated and considered as the reference case. In order to construct these subgroups of regions, we take as a reference the Insee maps describing the distribution of all French regions according to these two characteristics: degree of rurality and the frequency of sensitive urban areas among these regions (see figure 1 and figure 2 in the appendix).

Figure 1 shows the distribution of the urban popoulation density in all French regions and we conclude for the first dimension (degree of rurality) the presence of 3 subgroups of regions : 1. regions with low degree of rurality (Paris Region, Nord-Pas-De Calais, Alsace, Rhone-Alpes, Roussillon, Provence) ; 2. regions with average degree of rurality (Champagne-Ardenne, Picardie, H.Normandie, Centre, Lorraine, Pays de la Loire, Bretagne, Aquitaine, Midi-Pyrénée, Corse) and 3. regions with high degree of rurality (B.Normandie, Poitou Charentes, Bourgogne, Franche-Comté, Limousin, Auvergne).

Similarily, figure 2 shows the distribution of the sensitive urban areas within the French regions and the map shows clearly 3 different subgroups: 1. Paris region (characterized by a lot of SUAs) ; 2. regions with a high number of SUAs (PACA, Rhone Alpes and Nord-Pas-De Calais) ; 3. regions with low number of SUAs (region Centre, H.Normandie, Champagne-Ardenne, Picardie, Lorraine, Pays de la Loire, Bretagne, Aquitaine, Midi-Pyrénée, Corse, B.Normandie, Poitou Charentes, Limousin, Bourgognes, Franche-Comté, Auvergne).

Table 1: **Type of residence area and rural population density**

Region categories according to their rurality level	Urban area	Rural area
Low group	91.13	8.87
Average group	73.28	26.72
High group	62.81	37.19
Total	81.20	18.80

[1] Source: Labor survey, Insee (2010), authors calculation. Weighted observations

[4] France is divided in 22 regions with their own prerogatives and possibilities of public policies

Both Table 1 and Table 2 show in terms of percentages, the distribution of our sample within the different subgroups of regions (as definded above) depending on their type of residence area (rural/urban and sensitive urban/not sensitive urban). Results are in line with the Insee maps as we find the lowest urban population density in the subgroup of regions characterised by high number of rural areas (9.19%) and the highest proportion of urban population live in the first subgroup characterized by low number of rural areas.

Table 2: **Type of residence area and SUAs density**

Region categories according to their frequency of SUA	Not SUArea	SUArea
Paris region	89.59	10.41
Average group	92.19	7.81
low group	94.34	5.66
Total	92.87	7.13

[1] Source: Labor survey, Insee (2010), authors calculation. Weighted observations

Table 3 summarizes some descriptive statistics of our sampled young workers. We notice that the average age of the sample is 24.74 years old. The proportion of employed young workers aged between 15-25 is slightly higher than the proportion of the 26-30 years old. Besides, 6.82% of working youth lives in a sensitive urban area (SUA) while 18.80% of them live in a rural area.

The most successful channel in providing youth access to jobs is the direct application channel (almost 50%). We also find that 25.55% of young job seekers obtain their jobs through their social network of personal and professional contacts and 6.67% of them find their current jobs through the school network.

Nevertheless, only 6.58% of young job seekers succeed to find a job through the public employment intermediates and a week proportion (almost 2%) of them find a job through the private employment intermediates.

Table 3: **Individual characteristics**

Variables	**Percentage**
Sample size	**N = 49.833**
- **Employed**	85.01
- **Unemployed**	14.99
Average age	**24.74**
- [15, 25]	50.48
- [26, 30]	49.52
Gender	
- Women	46.48
- Men	53.52
Nationality	
-Both parents French	79.69
-One parent is not French	6.97
-None of them is French but son/daughter is	6.53
-Neither the parents nor their child are French	6.81
Highest education level	
- High (at least bachelor degree)	19.59
- Middle (2 years after Baccalaureate degree)	16.33
- Bac (Baccalaureate degree)	27.09
- Less (less than Baccalaureate degree)	36.99
Access channel to the current job	**N = 33.452**(*cf. below*)
- Direct application	49.74
- Social and professional network	25.55
- School network	6.67
- Public employment agencies	6.58
- Private employment agencies	1.94
- Others (including job exams)	9.52

The number of observations where access channels are available is 20% lower than the expected number. This is due to missing answers, concerning the channels.

Source: Labor survey, Insee (2010), authors calculation. Weighted observations

A higher proportion (almost 10%) is noticed for young job seekers who obtain their jobs through ”other channels” (including job exams). However, examining the proportion of each channel in terms of providing access, we notice some missed values (16 397) since our data include unemployed individuals (8,301) in addition to missed values (8,096).

For each variable we perform a chi squared test which shows that all the statistics reject the independence hypothesis between the job access channel and the explanatory variables.

Table 4 shows that women are more successful than men with direct applications and public agency. Equally, they are more often recruited through competitive exams compared to men who seem to rely more on the referral hiring. A larger proportion of young workers aged 15-25 years obtain their jobs through school networks compared to elder youth (60.17% compared to 39.83%).

However, we find that elder youth are more successful with private recruitment intermediates (65.49% compared to 34.51%) and job examinations than the youngest workers.

Table 4: **Distribution of the entry channels to the current job**

Variables	Direct	Network	School	Public	Private	Others
Age						
- [15, 25]	49.18	49.18	60.17	45.84	34.51	33.55
- [26, 30]	50.82	50.82	39.83	54.16	65.49	66.45
Women	53.16	21.17	6.71	7.72	1.43	9.83
Men	46.71	29.44	6.64	5.56	2.39	9.26
Nationality						
-Both parents French	49.76	25.08	6.66	6.08	1.92	10.50
-One parent is not French	47.40	27.41	8.26	7.25	1.95	7.73
-None of them is French but son/daughter is	50.08	25.52	6.05	6.81	1.87	9.66
-Neither the parents nor their child are French	41.55	36.39	7.06	5.92	2.66	6.42
Education						
- Less Bac	46.10	18.62	8.71	4.71	3.15	18.71
- Bac	53.83	22.38	8.11	6.40	1.89	7.38
- Bac +2/3	51.06	25.59	6.45	6.37	1.66	8.87
- Bac ¿3	48.98	30.83	5.03	7.84	1.48	5.83
Sensitive Urban Areas						
- Not sensitive urban areas	49.24	25.96	6.72	6.05	1.95	10.08
- SUA in Paris region	46.68	25.67	8.11	4.27	2.39	12.88
- Regions with a lot of SUA	47.38	28.27	6.58	6.39	1.88	9.49
- Regions with seldom SUA	50.08	24.98	6.45	6.93	2.00	9.55
Rural areas						
- Not rural areas	48.48	25.78	7.00	6.26	2.09	10.39
- Regions with seldom rural areas	47.39	27.08	7.41	5.52	1.92	10.66
- Regions with average rural areas	50.92	24.81	5.92	6.80	1.95	9.61
- Regions with a lot of rural areas	51.09	24.49	6.50	7.08	2.17	8.68
Total	**49.14**	**25.93**	**6.75**	**6.18**	**1.96**	**10.03**

Labor survey, Insee (2010), authors calculation. Weighted observations

In what follows, we suggest to consider a probability of getting a job through a given access channel, controlling for a large number of individual and socio-spatial characteristics.

2 The econometric model

The dependent variable is the job access channel and takes 6 exclusive alternatives: we then suggest to estimate a *Multinomial Logit model* of job access channels. We choose the ”others” channel group (including job examinations) as the basic alternative.

Let's denote X_i as a vector of individual characteristics and $Y_i = j$ if the individual i got a job through the alternative j (j= 1,.....,J). Thus, the model can be written as follows:

$$Y_i = F(X_i, \beta_j) \tag{1}$$

Hence, the probability of finding a job through the alternative j is :

$$Pr(y_i = j \mid X_i) = \frac{exp(X_i\beta_j)}{1 + \sum_{K=2}^{J} \exp(X_i\beta_k)} \tag{2}$$

We keep as explanatory variables the following set of individual characteristics : gender, education level, origins, parent's occupational status, rurality and sensitivity of residence area. The basic alternative is the ”others” channel group (including job examinations).

Restricting the sample to the only occupied workers may generate a selection bias. We have then to test for the selection and to correct for it (when it occurs). In fact, the employability is not a random phenomenon, given that there is a selection at the hiring process based on several observable and unobservable characteristics.

Taking into account the selection problem induces the use of a control function approach. We adapt the (Van de Ven, 1981) two-steps estimation procedure for a probit with a selection to our case of multinomial model with selection. In the first step, we model the likelihood of being employed, depending on a set of exogenous explanatory variables using a *probit* model. This probability of being employed can be written as follows:

$$\Pr(m_i = 1) = G(Z_i, \alpha) \tag{3}$$

With $m_i = 1$ if the individual is employed and 0 if unemployed. Z_i denotes the set of exogenous variables affecting the probability of being employed and define the selection equation (individual characteristics, household characteristics, etc.).

To allow for the identification of the model the exclusion restriction has to be respected. This is the case since, among the set of explanatory variables (Z_i), we control for the housing type, the parents and spouse occupation and children (if any).

These variables occur only in the employment equation and not in the multinomial logit model of job access channels. However, the latter variables are not correlated with the probability of finding a job through any given channel. Then, we compute the predicted value of this employment probability for each individual.

This value is needed to calculate the generalized residual (u_i) suggested by Gourieroux et al. (1987) :

$$\hat{u}_i = \frac{\phi(.)}{\Phi(.)[1-\Phi(.)]}[m_i - \Phi(.)] = \begin{cases} \frac{\phi(.)}{\Phi(.)} & \text{for the employed } m_i = 1. \\ \frac{-\phi(.)}{[1-\Phi(.)]} & \text{for the unemployed } m_i = 0. \end{cases} \quad (4)$$

With $\phi(.)$ the probability distribution function and $\Phi(.)$ the cumulative distribution function of the standard normal distribution.

The equation (4) can be identified as the inverse Mills ratio *Ã la* Heckman, for the whole sample. This term possesses two important characteristics of a residual. First, it has mean zero over the whole sample. Second, it is uncorrelated with the variables that appear as explanatory variables in the first step *Probit* model (Vella, 1998).

At the second step, we model the "choice" of one alternative to get a job. For this purpose, the generalized residual is introduced as an additional explanatory variable in the equation (2) which leads to the following equation:

$$\Pr(y_i = j \mid X_i) = \frac{\exp(X_i\beta_j + \hat{u}_i\lambda_j)}{1 + \sum_{k=2}^{J} \exp(X_i\beta_k + \hat{u}_i\lambda_k)} \quad (5)$$

If the vector of coefficients λ associated to the generalized residual is globally significant, then we can conclude that the sample of employed workers is not random and that there is a selection problem.

Concerning the estimation of the *Multinomial Logit* (Equ. (5)), a significance test of each variable's coefficient is first run. We then proceed to a classical test of significance level for each explanatory variable included in our model through a Wald test: all the explanatory variables significantly influence the probability of finding a job through any alternative channel.

In order to test the IIA (the Independance of Irrelevant Alternatives) assumption, a test of coefficient equality between two alternatives is performed: clearly, the influence of all the explanatory variables on the probability of being in each alternative is significantly different between each pair of access channel.

We conclude in a nutshell that independent variables influence differently and significantly the probability of getting a job through each alternative. The assumption that two or more categories are dependent[5] is then rejected.

[5]Several tests have been proposed to test this assumption. The two most common are the Hausman and McFadden (1984) test and the Small and Hsiao (1985) test. This latter is used here and the results does not reject the null hypothesis according to which

What follows presents the main empirical results.

3 The econometric results

As mentioned above, a two-steps estimation procedure tests the existence of a selection bias and controls for it. This implies to estimate the general residual coefficient through a global significance test: the estimates show that these coefficients are globally significant. Hence there is a selection problem that we correct for (see the results reported in both Table 5, for the employment equation and Table 6 for getting a job).

3.1 The determinants of the employment probability

Table 5 reports the estimation of the selection model where the dependent variable is "being employed" or not. This equation is used as the selection equation in the two-steps procedure when estimating the multinomial model. Both the coefficients and the marginal effects of each variable on the probability of being employed.

Two sets of variables are considered. The first concerns individual characteristics and the second tends to measure the influence of the individual's socio-spatial environment on his/ her probability to find a job.

A first observation is that the eldest young workers are more likely to find a job compared to the youngest and this probability increases by 0.8% for each additional year. The more experienced they are, the higher the probability to be employed. The probability of being employed is lower (-2.3%) for women compared to men and this joins European reports (OECD, 2012) findings[6] (OECD, 2012).

when individuals are asked to choose among a set of alternatives, their odds of choosing one outcome category over another outcome category should not depend on whether some third alternative is present or absent. Both tests employ the same general strategy: for each alternative, delete individuals who chose that alternative and re-estimate the model for the remaining alternatives then construct a test comparing the new estimates with the original ones. The results of the test IIA (Independence of Irrelevant Alternatives) are available on request from the authors.

[6]Closing the Gender Gap: Act Now, OECD publication, December 2012

Table 5: **Individual employment probability**

Variables	Coefficient	z-value	Margin effects
Age	0.038***	188.66	0.008
Women	-0.112***	-86.87	-0.023
Living In couple	0.413***	263.73	0.084
Nationality according to parents origin			
One parent is not French	-0.233***	-102.09	-0.051
None of them is French but their child is	-0.325***	-136.13	-0.075
Neither the parents nor the child are French	-0.278***	-116.60	-0.062
Children	-0.145***	-76.46	-0.031
Education level			
REF:less/no diploma			
BAC	0.307***	192.67	0.068
Middle	0.440***	202.77	0.091
High	0.402***	185.95	0.085
Mother status			
REF: manual			
skilled	0.092***	31.13	0.018
semi-skilled	0.012***	3.46	0.002
craft	0.097***	25.57	0.019
unskilled	0.020***	9.03	0.004
inactive	-0.140***	-59.94	-0.031
unknown	-0.009**	-1.85	-0.002
Father status			
REF: manual			
skilled	0.045***	20.13	0.009
semi-skilled	0.070***	32.11	0.014
craft	0.127***	58.48	0.025
unskilled	-0.037***	-17.85	-0.008
inactive	-0.283***	-82.19	-0.068
unknown	-0.123***	-49.23	-0.027
Housing type			
REF: private renter			
Social	-0.180***	-100.56	-0.042
Owner	0.150***	99.73	0.029
Free of charge	0.225***	52.02	0.042
Living in a rural area	0.159***	47.84	0.024
Region#rur			
REF: Not rural in regions with seldom rural areas			

Rural in regions with seldom rural areas			0.033
Not rural in regions with average rural areas	0.134***	52.19	0.028
Rural in regions with average rural areas	0.061***	14.65	0.045
Not rural in regions with a lot of rural areas	0.181***	56.66	0.037
Rural in regions with a lot of rural areas	0.106***	22.04	0.053
Living in a SUA area	-0.200***	-48.01	-0.051
Region#SUA			
REF: Not SUA in Paris region			
SUA in Paris region			-0.038
Not SUA in regions with a lot of SUA	-0.129***	-61.67	-0.023
SUA in regions with a lot of SUA	-0.103***	-19.06	-0.061
Not SUA in regions with quite SUA	-0.244***	-87.76	-0.048
SUA in regions with quite SUA	-0.298***	-57.52	-0.110
_cons	-0.036***	-6.58	

Note: reported estimates are the coefficient, T-stat and the marginal effect of each variable: weighted estimates. Marginal effects for the interaction terms result from our own calculations, as the difference between the corresponding average probability and the average probability for the category of reference.

Gender discrimination at the recruitment and the wage levels (Gobillon et al., 2015) in addition to strong incentive policies to keep mothers at home (subsidies for child care) lower the probability for women to work. Not surprisingly we find this effect in this estimation, since the fact of having children decreases this likelihood by 3.1% compared to job seekers who have not children. We also look at the children effect by gender and note that while the effect of having children increases slightly the probability of working for men (+0.8%), it decreases strongly this probability for women (-7.9%) (results are available upon request). Living in couple increases by almost 8.4% the probability of being employed, compared to being single [7].

Concerning the influence of origins on the probability of finding a job, we find that having foreign origins (at least one parent is not French), diminishes the likelihood of finding a job. More precisely, we distinguish 4 different groups of individuals according to their origins -having two French parents, one parent is not French, none of them is French but the child is, neither the parents nor the child are French. Among youth with foreign origins, the worst position concerns French youth with two foreign parents (-7.5%). Surprisingly, non French individuals have a slightly higher probability of finding a job than French individuals with non French parents (-6.2% instead of -7.5%). This effect can be due to unobserved heterogeneity, difficult to explore due to poor information in the data set.

[7] We suspect the endogeneity of the ”living in couple” variable but instruments are not easily available: obviously, the decision of being in couple depends strongly on being employed

Therefore, looking at the effect of education, we note that the highest diploma have a significant positive effect on the probability of finding a job compared to the less educated, specially if this diploma is higher than the Baccalaureate degree. The high diploma effect can be minored by the fact that we do not distinguish between selective business or engineering schools or PhD and non selective academic cursus[8]. Baccalaureate holders are 6.8% more likely to be employed compared to the less educated, while those who achieved a short university cursus (Middle) observe their employment probability increasing by 9.1%. The more educated have a probability of being employed which is 8.5% higher than the less educated. This is in line with recent studies which highlight the positive returns to education and the high correlation between education and labor market participation (also from a gender point of view). Having a diploma helps to get better wages and to avoid unemployment spells (OECD (2014)).

The influence of the parents occupation on the employability of their children is then evaluated. Having skilled parents help to find a job and this may be explained by the differences in human and social capital. There exists a positive effect when the parents (mother or father) are craft-persons. Here we assume the existence of a social network effect or the capacity for these parents to create jobs. Finally having one inactive parent has a strong negative effect and this effect is enhanced when it is the father who is inactive (in average -3.1% for the mother and -6.8% for the father).

This study also underlines the influence of both the neighborhood of the place of residence and the characteristics of the residence region. The place of residence in addition to other variables, which effects are described previously, might reflect some relevant realities on the challenges faced by young job seekers if they live in a rural area or in a sensitive urban area. The best situation is to live in a rural area where young people have a higher probability (+2.4%) to work. The first message here is that living in a rural neighborhood is not an obstacle to find a job. This can be a counter-intuitive result. We could expect that leaving far from areas with high economic activity and where institutional employment intermediates are less available or difficult to achieve, might penalize access to jobs. However, we suspect that living in a rural area for young people is an endogenous choice: they live there because they have a job, if not, they would leave for bigger cities.

We then look at the cross-effects between the type of neighborhood and the rurality of the region of residence. Compared to those who live in an urban area of a region characterized by low number of rural areas, all the other cross-effects exhibit higher probability of being employed. The highest effect is observed for those who live in a rural area of a predominantly rural region (characterized by high level of rurality, +5.3%), followed by those who live in rural neighborhood of quite rural regions (+4.5%). It is well known that an important part of young workers move from rural to non rural areas for higher job opportunities: those who stay in a rural area are also those who estimate they can or already have found a job. In this context, a

[8]in France, the best students are recruited and educated in business or engineering schools after their baccalaureate while the others study in the universities.

recent study of Brutel and Levy (2011) for the Insee, shows that almost 95% of the overall French population live under the economic influence of urban areas [9].

Let's consider now the effect of the SUA variable (if the individual lives in a sensitive urban area) on the probability of finding a job for young people.

The results show important disparities in terms of job access compared to other advantaged urban areas (-5.1% on average). When looking at the cross-effects between the type of neighborhood and the degree of SUA of the region of residence, we note negative effects for all the situations, compared to those who live in Paris region and not in a SUA neighborhood. Young workers who live in a SUA in Paris regions, are less likely to find a job (-3.8%) than those living in the Paris region and not in a SUA neighborhood. Living in SUA in regions with high SUA (dominated by Marseille, Lyon and Lille) lowers the probability of finding a job by 6.1% . However, the worst effect (-11%) is observed for those who live in a SUA neighborhood, in the remaining part of France (*cf.* Figure 1). These results are in line with those of Chevalier and Lebeaupin (2010) who underlines that inhabitants in SUA are, in average, younger and less educated than in the rest of France: they come more frequently from immigration and more frequently live in social housing. The rate of employment is lower in these areas.

In addition to these socio-demographic variables, we control for some variables describing the household characteristics such as the housing type. Workers who are hosted by their parents or are owners are more likely to find a job compared to those who use the private rental. On the contrary, living in social housing reduces the probability of being employed by 4.2%. Again, we suspect here that living in social housing is a signal of unobserved factors which participate to reduce the probability of finding a job (income [10] and sometimes, ghetto effect).

3.2 Probability of finding a job through a particular access channel

The next step is to estimate the multinomial logit model controlling for selection. Table 6 reports the marginal effects of each explanatory variables (*see coefficients in Appendix table 7*) on the probability that a young worker finds a job through a given access channel. The dependent variable here is the job access channel which takes 6 exclusive alternatives: direct procedures (direct job applications and job *ads*), network of personal and professional contacts, school networks, public employment agencies, private employment agencies and other channels (including job examinations).

The estimation shows that the probability of finding a job through social networks (personal and professional contacts) and formal employment intermediates (public and private), increases with age. The probability of entering to the current job through social networks increases by 0.2% for each additional year.

[9] In France, more than 50% of the population live in cities with more than one hundred thousand inhabitants

[10] In France, living in a social housing depends on the level of earnings

The likelihood of being successful with the public employment office increases by 0.3% for each additional year (+0.1% with the private channel).

An important result is that the school network effect decreases when people get older (-0.7% for each additional year): school networking (school contacts, traineeship, careerdays, etc.) helps young job seekers in the very beginning of their professional career. On the contrary, the social network effect positively increases with age (+0.2%) which suggests that the more people work, the more important their social network becomes.

These results refine those of Granovetter (1995) or Granovetter (1973) who simply consider a global social network measure without distinguishing between school and social networks which is the case in this study. This author underlines the role of social networks in providing first job seekers (and also their recruiters) with better information about vacancies and job opportunities: he also underlines that the influence of social networks diminishes over time.

Because we make the difference between two types of networks, we highlight opposite effects. First, the school network effect diminishes over time, in line with Granovetter's results. Second, we find that, what we call a social network effect increases overtime and this is more in line with (Franzen and Hangartner, 2006), who suggests that social capital is accumulated overtime and work experience.

We conclude that compared to the eldest, younger graduates benefit more from school networks and direct applications. In fact, these individuals do not have an important working experience and do not know well their type or the labor market requirements, hence they may be more likely to use referral hiring (careers' days, forums at school, traineeship offers, apprenticeship, etc.) as a first tool to get their first job. The eldest are more successful with the accompanied job search procedure, through applying via an existing data set of job offers either in the private or public organizations.

Table 6: The determinants of job finding channels

	Direct applications		Social network		School network		Public agencies		Private agencies		Exams/self-emp	
Variables	**margin**	**z**	**margin**	**z**	**margin**	**z**	**margin**	**z**	**margin**	**z**	**margin**	**z**
Age	-0,007 ***	-71,87	0,002 ***	28	-0,007 ***	-153,7	0,003 ***	64,48	0,001 ***	48,41	0,008 ***	128,4
Women	0,070 ***	140,61	-0,071 ***	-162,6	-0,007 ***	-26,83	0,018 ***	73,98	-0,011 ***	-83,7	0,000	0,25
In couple	0,016 ***	22,63	-0,004 ***	-6,94	-0,011 ***	-33,71	0,005 ***	14,81	0,001 ***	3,32	-0,006 ***	-13,67
Nationality												
Ref : FR												
FR, 1P FR	-0,020 ***	-19,23	0,020 ***	21,75	0,013 ***	23,46	0,005 ***	10,12	0,003 ***	8,33	-0,020 ***	-34,59
FR, 2P NFR	0,016 ***	13,15	-0,005 ***	-5,36	-0,001 **	-2,39	-0,006 ***	-11,64	0,002 ***	6,69	-0,005 ***	-7,31
NFR	-0,061 ***	-55,23	0,100 ***	95	0,008 ***	13,5	-0,009 ***	-17,74	0,007 ***	20,17	-0,045 ***	-91,44
Education level												
Ref: < Bac												
Bac	0,009 ***	11,32	-0,050 ***	-68,37	0,023 ***	67,15	-0,013 ***	-32,69	0,002 ***	7,59	0,030 ***	70,47
Bac+2/3	0,041 ***	41,28	-0,094 ***	-109,9	0,057 ***	106,8	-0,004 ***	-8,5	0,000	-0,12	0,001	1,2
Bac >= 4	-0,026 ***	-26,8	-0,131 ***	-162,7	0,067 ***	122,97	-0,021 ***	-46,95	0,014 ***	47,25	0,097 ***	156,3
Mother's occ.												
Ref: Manual												
Kraft	0,015 ***	10,84	0,032 ***	27,81	-0,032 ***	-46,43	-0,009 ***	-14,51	0,002 ***	3,25	-0,007 ***	-9,22
Skilled	-0,015 ***	-14,51	0,017 ***	18,77	0,005 ***	8,45	0,000	-0,26	-0,014 ***	-45,9	0,007 ***	11,84
semi-skilled	0,021 ***	17,07	0,008 ***	7,54	-0,036 ***	-58,96	0,009 ***	15,31	-0,001 ***	-3,32	-0,001	-0,97
unskilled	0,015 ***	17,79	0,012 ***	16,93	-0,027 ***	-55,58	0,006 ***	16,32	-0,006 ***	-18,6	-0,001 **	-2,03
inactive	0,001	0,69	0,008 ***	9,98	-0,021 ***	-38,47	0,002 ***	5,44	-0,005 ***	-14,6	0,014 ***	24,03
Father's occupation												
Ref: Manual												
Kraft	-0,037 ***	-46,33	0,075 ***	103,94	0,001 ***	2,8	-0,022 ***	-61,98	0,000	0,99	-0,018 ***	-39,18
Skilled	0,030 ***	38,41	-0,016 ***	-24,16	0,003 ***	8,95	-0,011 ***	-28,96	0,009 ***	40,95	-0,015 ***	-35,79
semi-skilled	0,012 ***	15,32	0,024 ***	35,8	-0,012 ***	-35,57	-0,015 ***	-42,19	0,003 ***	15,46	-0,012 ***	-25,63
unskilled	0,021 ***	27,5	-0,027 ***	-41,61	0,009 ***	22,41	-0,003 ***	-7,41	0,003 ***	12,07	-0,003 ***	-7,11
inactive	-0,021 ***	-12,04	-0,035 ***	-25,66	-0,009 ***	-10,94	0,022 ***	24,33	0,000	0,11	0,042 ***	31,23

Table 6 (continued)

Variables	Direct applications		Social network		School network		Public agencies		Private agencies		Exams/self-emp	
	margin	z	margin	z	margin	z	margin	z	margin	z	margin	z
Live in rural area	0,027 ***	37,26	-0,008 ***	-12,42	-0,004 ***	-11,5	-0,002 ***	-4,35	-0,005 ***	-25,2	-0,009 ***	-19,76
Region/RUR	*ref: Urban area in low rural region*											
Rur/low	0,035 ***		-0,028 ***		-0,085 ***		0,014 ***		-0,002 ***		-0,012 ***	
Urban/Averag	0,002 ***		-0,043 ***		-0,094 ***		0,013 ***		0,032 ***		0,014 ***	
Rur/inAverag	0,027 ***		-0,024 ***		-0,101 ***		-0,007 ***		0,013 ***		0,016 ***	
Urban/inHigh	0,006 ***		-0,044 ***		-0,098 ***		0,013 ***		0,033 ***		0,013 ***	
Rur/inHigh	0,014 ***		-0,048 ***		-0,075 ***		0,008 ***		0,032 ***		-0,007 ***	
Live in SU area	-0,013 ***	-10,65	-0,023 ***	-23,09	0,009 ***	14,09	0,013 ***	21,16	0,007 ***	17,87	0,007 ***	8,9
Region/SUA	*ref: Not SUA in Paris region*											
SUA/in Paris	-0,028 ***		-0,021 ***		0,036 ***		0,011 ***		-0,004 ***		0,006 ***	
NoSUA/inHigh	-0,003 ***		0,013 ***		-0,002 ***		0,017 ***		-0,006 ***		-0,019 ***	
SUA/High	-0,034 ***		-0,014 ***		-0,028 ***		0,022 ***		0,047 ***		0,007 ***	
NoSUA/inAver	0,023 ***		0,015 ***		0,008 ***		0,016 ***		-0,030 ***		-0,032 ***	
SUA/inAver	0,018 ***		-0,010 ***		0,022 ***		0,032 ***		-0,028 ***		-0,034 ***	
gen_resid	0,768 ***	22,69	0,701 ***	19,55	0,711 ***	15,41	1,630 ***	35,67	-0,022	-0,3	***Ref***	
N	33384											
Loglikelihood	-43659,217											
$\chi^2(160)$	3231,7											

* Significant at the 10%, ** Significant at the 5%, *** Significant at the 1% level.

Note: The model estimated is a multinomial logit model. Reported estimations are the marginal effects of each variable on the probability of finding a job through a particular job search channel. Observations are weighted. The student test (z-values) for the interaction variables is not reported here as the average maginal effects were computed by authors after estimating the probability of being in each alternative. However, we report the student test of interaction variables in the appendix (table 5: with the coefficient estimates).

Women benefit less from their social network (-7.1%) and slightly less from their school network (-0.7%). This is in line with a very new result driven by mathematicians Avin et al. (2015) who find a glass ceiling effect for women, in social networks where there are more men than women. This brings into the light that the differences between women and men network structures are important to their long-run adjustment[11]. The results show that women have more success with direct applications (+ 14.7%) and with public employment agencies (+ 1.8%) but are less lucky through the private agencies (- 1.1%). This is partially in line with the findings of Margolis and Simonnet (2004) who show that men are more likely to find their current jobs through social networks compared to women.

When we look at the origins of these young workers (French, Non French), the results depend also of the parents' origins. When one parent is French, the networks (both social and school) are more probable as well as public agencies. Concerning French individuals with two non French parents, they are less likely to get a job through social and school networks (-0.5% for social networks and -0.1% for school networks. They are also less likely to find a job through public agency or the "exam and self-employment" channel. Remind that this is also the category of young people suffering more from unemployment.

Concerning non-French people, the probability of finding a job through the social network channel is extremely high (+10%) and this suggests a community effect as underlined by Battu et al. (2011) using British data. The probability of finding a job with direct application for this population is negative and very important (-6.1%). For the three populations (French with one non-French parent, French with two non-French parents, non French), we observe a high negative impact on using the "exam and self-employment" channel compared to native workers. One possible explanation could be their lack of information about the French officialdom. Pailhè and Meurs (September 16-18, 2010) highlight the under-representation of immigrants and their descendants as permanent officials in the French public service. The authors argue that the practical arrangements of the recruitment (contest with different tests based on a good level of general knowledge) discourage this population. Moreover, the presence of binding rules constitutes a legal closure to immigrants. Thus the restriction of competition only to European Union citizens, should mechanically reduce the presence of non French among potential candidates. Audier (2000) emphasizes that this can have indirect effects on the next generations of immigrants descendants while having a permanent official parent affect positively the probability for the child to become also an official in the future.

The role played by the education level deserves some attention. The high-educated (Bac+4/+) people are 13% less likely to find a job through social networks but are 9.7% more likely to find a job through exams or by creating their own enterprise. Concerning the school network, we observe an increasing effect with the diploma (the higher the level of education, the higher the positive school network effect): the most graduated are 6.7% more likely to obtain their job through school network. The less qualified find a job essentially thanks to their social network or the public agencies.

[11] for more details see Hagan (1998), Gerstel et al. (1985)

When controlling for the impact of parents' occupation on the job access channels, it appears that fathers and mothers influence differently. Having a kraft, semi-skilled or unskilled mother diminishes the probability of finding a job through school networks, but increases the probability of being employed thanks to a direct application. The effect is opposite for young people with skilled mother (positive for school networks, negative for direct application).

Concerning the area of residence, we observe that living in a rural region negatively affects the probability of getting a job through networks channel both social and school. As a consequence, the formal channels as direct applications or institutional intermediates are more efficient in terms of getting a job. We then looked at the interaction between neighborhood rurality and region rurality. Clearly living in a urban region, in a urban neighborhood is associated to the highest probability of accessing to employment through networks, both social and school. It is also in these urban areas where the economy is more dynamic and the information easier to find that efficient networks can be built.

Living in a SUA also affects the way of finding a job. Clearly, if SUA inhabitants have more difficulties to find a job by themselves (direct applications or social networks) it seems that institutional channels are more efficient for them. We observe a positive effect on the school network, the public and private intermediates and the "exams and selves" channel. This last result could be explained by efficient public policies concerning these areas whereas the negative effect related to personal channels could reflect the stigmatization young people of these areas suffer from (see Duguet et al. (2011)).

Conclusion

This paper contributes to the debate about the youth labor market. Given that unemployment is much higher for young people in all the OECD countries, we wonder whether unemployment can be reduced by looking at job-finding channels as a possible source of matching. This analysis goes further than the traditional explanations in terms of biased technical changes and the international trade hypothesis, recession and imperfect or asymmetric information. It highlights the influence of individual characteristics and the socio-spatial environment on the probability of being employed.

We postulate that *(i)* there are different matching problems and heterogeneous job opportunities for different groups of individuals, according to their characteristics; *(ii)* matching problems due to incomplete or asymmetric information may be reduced by the use of networks. An originality of this study is to allow for selection bias due to unemployment. We estimate a multinomial model associated with job finding, controlling for selectivity, by adapting Van de Ven (1981)'s two-step estimation procedure.

In the first step, we model the probability of being employed. The results confirm some well-known features such as the effects of education and gender. Women, less-educated people and SUA inhabitants suffer more from unemployment. We also find that the less skilled the parents, the smaller the probability of

the children being employed. We also show that French immigrants' children suffer the most from unemployment, even more than the young non-French. In France, it is easier for young people with French parents to be employed.

In the second step, we estimate the probability of getting a job through a given job-finding channel. A first set of original results concerns the specificity linked to individual characteristics. Women are more likely to find a job through direct application, whereas they are less likely to find a job through social and school networks. Better-qualified people benefit more from school networks and do not find jobs through public agencies or social networks: this result is in keeping with (Kramarz and Skans, 2014)'s conclusion that weak ties help people with higher qualifications.

A second set of original results is related to the socio-spatial characteristics. People living in SUA are more likely to find a job through school networks, public agencies or competitive exams. Note that these three channels are sensitive to public policy: it seems that when people have difficulty in finding a job through their individual information channels (direct applications, social networks, etc.), the state still has an important role to play.

When comparing the situation in rural and urban areas, we find a higher effect of social and school networks in urban areas. Conversely, the four other channels are more frequently used in rural areas to find a job. Note the importance of school networks for Parisians living in SUA: this may be related to a deliberate public policy, helping people from sensitive areas to gain access to prestigious educational institutions. It may also be explained by a heavy concentration of educational institutions and polycentric economic agglomeration in the Ile de France (Paris) region.

It is clear that young people can be helped to find jobs by helping them to use different channels of job-finding. There is a need for public policies to encourage young women, less-educated youth and immigrants' children to mobilise the right channels, i.e., the ones that give them the highest probability of getting a job. Young women and immigrants' children should benefit more from school networks, while less-educated young people should benefit more from public agencies, whatever their place of residence.

"85% of your financial success is due to your personality and ability to communicate, negotiate and lead. Shockingly, only 15% is due to your technical knowledge", the Carnegie Institute of Technology recently declared. Clearly, helping young people or students to invest more in social capital could be a crucial tool in the fight against unemployment.

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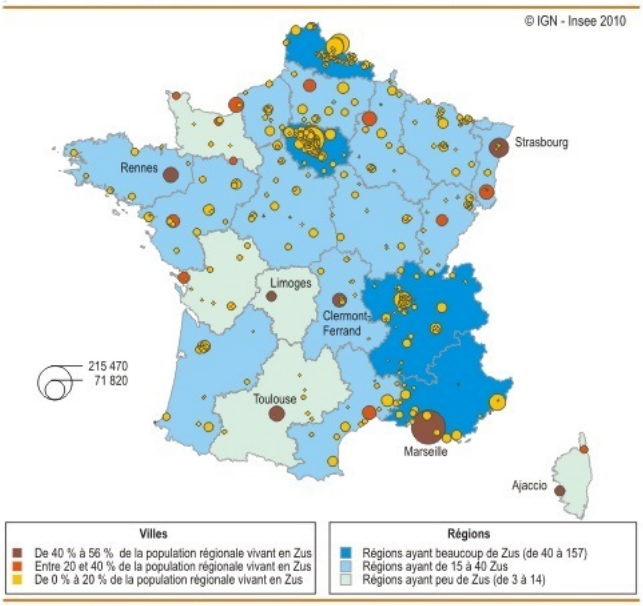
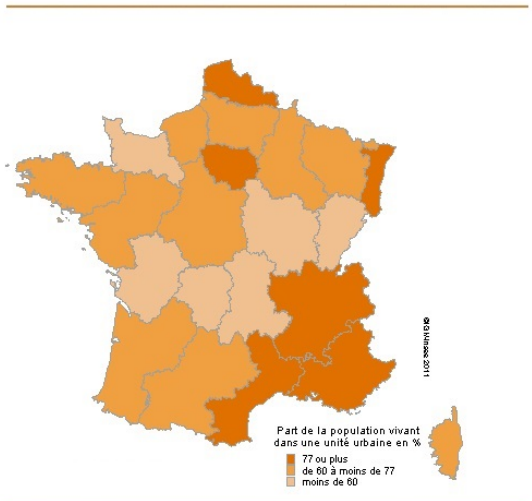
Appendix

Figure 1: **Distribution of Population in ZUS and Regional Capitals Weight in 2006**



Source: Insee, recensement de la population 2006

Figure 2: **Share of urban population by region**



Source: Insee, recensement de la population 2007

Table 7: The determinants of job finding channels: coefficient estimates

	Direct applications		Social network		School network		Public agencies		Private agencies	
Variables	**coef**	**z**	**coef**	**z**	**coef**	**z**	**coef**	**z**	**coef**	**z**
Age	-0,092 ***	-130,8	-0,07 ***	-93,04	-0,189 ***	-192,5	-0,032 ***	-32,48	-0,008 ***	-5,26
Women	0,1446 ***	40,93	-0,283 ***	-73,81	-0,099 ***	-19,56	0,2976 ***	56,77	-0,606 ***	-75,1
In couple	0,0921 ***	18,51	0,0438 ***	8,19	-0,115 ***	-16,41	0,1436 ***	19,52	0,089 ***	8,31
Nationality	*ref: French & 2 parents are French*									
FR&1P FR	0,1804 ***	22,83	0,2981 ***	35,62	0,397 ***	38,21	0,2993 ***	27,82	0,341 ***	21,05
FR&2P NFR	0,0831 ***	9,76	0,03 ***	3,26	0,03 **	2,45	-0,05 ***	-4,09	0,17 ***	9,04
NonFrench	0,4564 ***	50,57	0,9355 ***	100,71	0,697 ***	58,8	0,438 ***	35,09	0,895 ***	54,86
Education level	*ref: < Bac*									
Bac	-0,349 ***	-56,66	-0,544 ***	-83,91	0,076 ***	8,46	-0,572 ***	-66,61	-0,28 ***	-20,93
Bac+2/3	0,0808 ***	10,51	-0,359 ***	-44,08	0,892 ***	81,93	-0,062 ***	-5,94	-0,016 ns	-0,95
≥ Bac +3	-0,945 ***	-136,5	-1,428 ***	-192,5	0,086 ***	8,45	-1,246 ***	-122,6	-0,281 ***	-19,17
Mother's occ.	*ref: Manual worker*									
Kraft	0,1132 ***	11,03	0,2102 ***	19,47	-0,376 ***	-25,96	-0,083 ***	-5,26	0,139 ***	6,88
Skilled	-0,104 ***	-13,68	-0,003 ns	-0,41	-0,014 0,2	-1,35	-0,074 ***	-6,51	-0,872 ***	-51,63
semi-skilled	0,0522 ***	5,81	0,0436 ***	4,51	-0,539 ***	-41,64	0,1631 ***	12,59	-0,046 **	-2,52
unskilled	0,0465 ***	7,04	0,0662 ***	9,41	-0,373 ***	-41,8	0,1238 ***	13,43	-0,23 ***	-16,85
inactive	-0,142 ***	-19,81	-0,11 ***	-14,44	-0,422 ***	-43,09	-0,102 ***	-10,14	-0,339 ***	-22,9
Father's occ.	*ref: Manual worker*									
Kraft	0,1156 ***	19,8	0,4651 ***	75,81	0,21 ***	25,41	-0,198 ***	-22	0,205 ***	15,75
Skilled	0,2161 ***	41,05	0,0896 ***	15,4	0,207 ***	27,75	-0,021 **	-2,59	0,599 ***	52,71
semi-skilled	0,1424 ***	26,26	0,2141 ***	36,69	-0,092 ***	-11,45	-0,132 ***	-16,06	0,293 ***	24,12
unskilled	0,0734 ***	13,43	-0,084 ***	-14,1	0,163 ***	21	-0,012 ns	-1,56	0,172 ***	13,63
inactive	-0,389 ***	-33,1	-0,501 ***	-38,9	-0,486 ***	-27,38	-0,058 ***	-3,78	-0,332 ***	-10,91

Table 7 (continued)

	Direct applications		Social network		School network		Public agencies		Private agencies	
Variables	**margin**	**z**	**margin**	**z**	**margin**	**z**	**margin**	**z**	**margin**	**z**
Region/RUR	*ref: Urban area in low rural region*									
Rur/low	0,2065 ***	22,89	0,0285 ***	2,96	0,013 ns	0,98	0,362 ***	28,93	-0,022 ns	-0,99
Urban/Avera	-0,154 ***	-19,58	-0,333 ***	-39,66	-0,418 ***	-40	0,044 ***	4	1,116 ***	44,09
Rur/inAverag	-0,111 ***	-12,03	-0,258 ***	-26,32	-0,558 ***	-43,26	-0,299 ***	-22,54	0,539 ***	18,8
Urban/inHigh	-0,139 ***	-14,67	-0,326 ***	-32,19	-0,496 ***	-38,22	0,063 ***	4,85	1,156 ***	41,93
Rur/inHigh	0,0925 ***	8,07	-0,132 ***	-10,82	0,085 ***	5,59	0,2 ***	12,72	1,334 ***	44,15
Region/SUA	*ref: Not SUA in Paris region*									
SUA/in Paris	-0,111 ***	-8,76	-0,144 ***	-10,56	0,409 ***	24,62	0,16 ***	8,52	-0,15 ***	-5,12
NoSUA/inHig	0,1782 ***	34,54	0,2398 ***	43,11	0,152 ***	20,74	0,49 ***	59,1	0,037 **	3,23
SUA/High	-0,145 ***	-10,11	-0,129 ***	-8,34	-0,678 ***	-27,88	0,315 ***	15,88	0,705 ***	27,05
NoSUA/inAv	0,3768 ***	46,27	0,3909 ***	44,95	0,455 ***	41,92	0,629 ***	52,54	-0,897 ***	-34,79
SUA/inAver	0,3858 ***	24,83	0,3072 ***	18,44	0,65 ***	30,9	0,864 ***	42,07	-0,752 ***	-19,96
gen_residual	0,7683 ***	22,69	0,7009 ***	19,55	0,711 ***	15,41	1,63 ***	35,67	-0,022 ns	-0,3
Intercept	3,7805 ***	143,86	3,0062 ***	107,5	4,263 ***	118,38	-0,264 ***	-7,18	-1,088 ***	-19,17
N	33384									
Loglikelihood	-43659,217									
$\chi^2(160)$	3231,7									

* Significant at the 10%, ** Significant at the 5%, *** Significant at the 1% level.

Note: The model estimated is a multinomial logit model. Reported estimations are the coefficient estimates of each variable in the probability of finding a job through a particular job search channel. Observations are weighted.